

**Industry Sector Analysis**

**Energy Efficiency**

**U.S. Commercial Service**  
**European Bank for Reconstruction and Development**

INDUSTRY SECTOR ANALYSIS (ISA)

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## **Section 1: Executive Summary**

This Industry Sector Analysis, produced by the U.S. Commercial Service Liaison to the European Bank for Reconstruction and Development (CS-EBRD), aims to:

1. Give an overview of EBRD activities in this sector;
2. Outline recent developments in the sector;
3. Show the EBRD's priorities for this sector by country;
4. Advise U.S. companies on how to work with the EBRD.

One of the most significant and enduring challenges in the countries of Central and Eastern Europe and the Commonwealth of Independent States (CEE/CIS) is to address their inefficient use of energy, a legacy of the former command economy that undermines the competitiveness of enterprises and economies, threatens energy security and contributes disproportionately to carbon emissions. Energy efficiency is a key issue in the Bank's countries of operation (COO) as they are much more energy intensive than in the EU.

Recognizing the importance of the energy efficiency sector in the development of the CEE/CIS, the EBRD significantly increased its investments in this sector in 2006. A total of €670 million of EBRD financing was devoted to achieving lower energy use per unit of GDP in the Bank's countries of operations. Furthermore, when excluding supply-side projects, such as power generation and transmission, the Bank's investment more than doubled, to €415 million. This increase in business volume reveals the EBRD's growing emphasis on energy efficiency, as outlined in the Bank's new Energy Policy and in the launch of the Sustainable Energy Initiative (SEI).

Since most projects are in the public sector, opportunities for U.S. companies exist in the procurement process. Interested U.S. firms are encouraged to bid on these public procurement opportunities. There also are opportunities for U.S. companies with suitable private sector projects seeking finance for energy efficiency projects due to the Bank's focus on the development of this sector in certain countries. The diversity of the portfolio indicates that there are broad ranging interests and expertise among Bank officials, which bodes well for U.S. companies interested in approaching the EBRD. There are also indirect opportunities for U.S. firms who may be interested in being sub-contractors supplying goods and services to private sector projects, or consultancies.

The Commercial Service Liaison to the EBRD exists to assist U.S. companies to access EBRD funding -- public sector project procurement, private sector project

sponsorship, and consultancies. The Liaison office also develops and promotes the U.S. company business interests in EBRD host countries.

## **Section 2: Introducing the EBRD**

This Industry Sector Analysis (ISA), prepared by the U.S. Commercial Service Liaison Office to the EBRD, is part of a series detailing opportunities for U.S. firms in industry sectors in which the European Bank for Reconstruction and Development (EBRD) has a special focus of interest. As this ISA covers opportunities for U.S. firms funded by a multilateral development bank in many countries, the format for this report will differ somewhat from that of a normal ISA.

This document contains information about opportunities for U.S. companies as part of the EBRD's activities in the Energy Efficiency Sector, and steps that U.S. firms may take to access EBRD funding. This document includes:

- The importance of the EBRD as a source of finance, and opportunities for U.S. firms;
- An overview of the Bank's strategy in this sector;
- Case studies of EBRD projects in this sector;
- Project opportunities for U.S. companies in this sector;
- Next steps – how to work with the EBRD.

The EBRD was established in 1991 to promote the development of market oriented economies in the twenty-eight countries of Central and Eastern Europe (CEE) and the Commonwealth of Independent States (CIS). Applying sound banking principles, the EBRD works with corporate partners to finance projects in both the private and public sector. The EBRD is a long-term reliable business partner with expertise across a broad range of sectors that provides innovative and flexible solutions to public and private companies' financial needs.

Unlike other multilateral development banks, the EBRD focuses on the development of the private sector and the infrastructure to support it. However, some 24% of the EBRD funding goes to public sector projects.

### *The Importance of the EBRD as a Source of Financing in the Region:*

The EBRD is one of the most important sources of investment in the CEE/CIS region. In many countries, EBRD involvement attracts investors who would not otherwise invest in the area. Thus, there are important opportunities for U.S. firms willing to make the effort to bid on public sector projects, propose private sector projects for EBRD finance, or provide consultant or technical assistance services.

The EBRD operates in 29 countries, which are classified as advanced transition countries, early/intermediate transition markets, and Russia.

Countries classified as advanced transition markets are: Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia.

Countries classified as early/intermediate transition countries are: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Former Yugoslav Republic of Macedonia, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Moldova, Romania, Serbia and Montenegro, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

The United States (U.S.) is a founding member of the EBRD, provides the largest capital subscription (€2 billion or 10%), and is a major partner of its lending and investment activities. Unlike other multilateral development banks, the EBRD focuses on the development of the private sector and the infrastructure to support it.

#### *Working with the EBRD:*

Funding from the EBRD, a major multi-lateral development bank is available to U.S. companies, as well as almost all other international firms.

Dozens of U.S. companies from a broad spectrum of industries have been very successful in working with the bank since 1991. There are three main ways of working with the EBRD.

1. As borrowers - or investors- in private sector projects with EBRD participation;
2. As bidders/tenderers/contractors on EBRD projects carrying out works, or supplying goods and services on public sector projects;
3. As consultants carrying out project specific as well as more general technical assistance projects and studies on behalf of the EBRD.

The EBRD is not an import/export bank, and as such, does not fund directly the exports of goods and services. However, its funding or involvement in projects may result in the financing of goods and services related to those projects. In addition, some of the financial institutions and banks and some of the funds that the EBRD has helped to establish, however, are sources of finance to local companies for the import of goods and services.

This document is designed to make U.S. companies aware of EBRD activities in energy efficiency and to access opportunities in this sector. More detailed information on working with the EBRD may be found at the end of this document.

The energy sector in CEE (Central Eastern Europe) and CIS (Commonwealth of Independent States) is a very important sector for the overall economic development of the region.

## **SECTION 3: Introducing Energy Efficiency**

### **3.1 Need for Energy Efficiency in Countries of Operation**

Midway into the second decade of transition in the EBRD region, it is clear that energy, more than any other single issue, holds the key to future economic development in the region's countries. At the beginning of this period, in early 2006, oil and gas prices were far higher than forecast 3-5 years earlier. This has magnified the already enormous impact that energy has on economic, social and environmental sustainability in the region, well known for wasting energy through inefficient use. At the same time, its energy needs are projected to rise by 60-80 per cent over the next 20 years.

Of the Bank's countries of operations, only four are rich in oil and gas; the others depend on oil and gas imports and nuclear, hydro and coal as their main, often problematic sources of energy. Higher world energy prices, likely to be sustained for some time, may offer great opportunity for growth in hydrocarbon-rich countries, although they must also grapple with questions of sustainable development and transparent revenue management. On the other hand, those prices also change the economics of various fuel mix options for energy consumers and offer greater incentive to increase security of supply. This can be achieved by diversifying sources of energy, reducing energy waste, increasing renewable energy, and co-operating with neighbors on cross-border energy issues.

Regardless of whether they are rich or poor in fossil fuels, one stark truth about energy use applies to all transition countries: highly-inefficient and heavily-polluting uses of energy threaten energy security and economic development and contribute disproportionate levels of the greenhouse gases linked to global warming. EBRD countries of operations use up to seven times the amount of energy it takes to produce each unit of GDP, relative to Western Europe. Transition countries also emit more greenhouse gas per unit of GDP consumed than do western Europeans – 30 times more in some cases.

Businesses and governments in the region are starting to see that highly inefficient use of energy undermines their competitiveness in global markets.

Decades of energy subsidies are slowly being phased out across the region: increasingly, this will have the positive impact of increasing energy efficiency by making it a bottom-line issue for businesses. However, it also puts the squeeze on some low-income households that find it hard to pay higher energy bills. A renewed effort is therefore required to protect the economically vulnerable.

For these reasons the EBRD is making energy efficiency the cornerstone of its 2006 Energy Operations Policy. Energy efficiency is fundamental to increasing energy security, reducing energy investment needs, addressing environmental concerns, alleviating affordability constraints and promoting the region's economic competitiveness.

### **3.2 Overview of Bank's Strategy in Energy Efficiency Sector:**

The Bank's strategy in the Energy efficiency sector is to support mechanisms that develop and finance energy efficiency projects. In addition, it aims to assist its clients to identify and develop energy efficiency opportunities within their operations.

Specifically, the Bank will aim to:

- Provide direct finance to projects of a significant scale that save energy. The projects can be located either in the public or private sector and concern generation, transmission/distribution or end-use. In particular:
  - Industrial projects in energy-intensive industries
  - Cogeneration projects, including on-site industrial cogeneration projects
  - Existing or new ESCOs. In particular, the Bank supports ESCO projects, which target social facilities, such as schools or hospitals.
- Support the development of sustainable mechanisms using local banks to provide financing to smaller projects. This can be in the form of dedicated credit lines or risk sharing.
- Support innovative financing vehicles e.g. finance companies or equity funds targeting energy efficiency and/or renewable energy.
- Help monetize carbon credits arising from emission-reduction projects. This improves the bankability of emission-cutting projects such as energy efficiency; renewable energy; fuel switching; methane capture; etc.



### **3.3 Overview of Bank's Sustainable Energy Initiative (SEI):**

The EBRD launched the Sustainable Energy Initiative (SEI) at its Annual Meeting in May 2006 to address the challenges in the Energy sector. The SEI responds to the specific needs of the energy transition in the EBRD countries of operations, as well as to the call of the G8 at the 2005 Gleneagles Summit for the International Financial Institutions (IFI) to scale-up climate change mitigation investment. The SEI focuses primarily on energy efficiency.

Through the SEI the EBRD is:

- aiming to scale up its sustainable energy investments to €1.5 billion between 2006 and 2008, more than double the level of the previous period;
- building policy dialogue to support the scaling up of investments; strengthening its capacity to mainstream energy efficiency objectives throughout the Bank with enhanced specialized support from a dedicated energy efficiency and climate change team;
- working with other multilateral development banks and institutions to enhance the impact of its policy dialogue and share best practice;
- and establishing a broad partnership with donors to mobilize grant funds required to scale up public and private sector financing.

#### *What has been achieved*

The SEI is already yielding significant results. From its launch in 2006 to the end of November 2007 the total investment volume by the EBRD alone under the SEI has reached €1.375 billion (US\$2 billion) or 92% of the SEI three year target. Total project value reached around €7 billion.

In launching the SEI the EBRD also made important management and organizational changes in its approach to sustainable energy. The EBRD is the only IFI with a dedicated Energy Efficiency and Climate Change Team (employing experienced professionals in banking, engineering, climate policy and carbon finance). Known as E2C2 the Team works across all areas of the Bank's activities in order to ensure sustainable energy opportunities are identified and exploited in as many EBRD projects as possible. The objective is to fully mainstream this activity within the organization.

The EBRD and the EIB have established the Multilateral Carbon Credit Fund, a public-private fund of €165 million targeted to the transition economies.

#### *Donor support*

A key component of the SEI has been to strengthen dialogue with donors and to make the case for raising additional funds to support the SEI investment program. Donor funding is essential in helping to overcome the barriers to

sustainable energy investments – which range from lack of awareness and technical knowledge amongst management of private companies to weakness in regulatory frameworks aiming to create a level playing field for sustainable energy projects.

Since 2006 the total donor funding raised for the SEI is €38.3 million for technical assistance and €58 million for grant investment co-financing. Examples of the uses of donor funds include:

- €30,000 energy audit at a major Polish steel works which identified 7 key energy efficiency projects with total investment of €42 million and IRRs ranging from 9% to 150%;
- €15 million grant from the Bohunice Nuclear Decommissioning Fund to support a €60 million commercial bank credit line in Slovakia dedicated to smaller energy efficiency and renewable energy projects; and
- €50,000 to develop a model for assessing the impact of urban transport projects on carbon footprint of municipal transport operations.

## **SECTION 4: EBRD and Energy Efficiency Case Studies**

### **4.1 Reducing carbon emissions in Ukraine**

Atmospheric pollution has traditionally been a by-product of Ukraine's vast steel industry, which ranks as the seventh largest in the world.

But a €76 million funding package will help to clear the skies at Alchevsk Iron and Steel Works of 6 million tons of carbon dioxide over three years – the amount emitted annually by households in the city of Manchester.

The Industrial Union of Donbass (Ukraine's second-largest steel producer), its subsidiary, the Alchevsk Iron and Steel Works, and the adjacent Alchevsk Coke Works are spending €276 million on building Ekoenergia. This new unit will use waste blast furnace and converter gases and coke oven gas, which would otherwise have to be burned off by flaring, to generate electricity for the Steel and Coke Works.

"This will improve energy efficiency, sharply reduce the emission of waste gases and help to bring atmospheric pollution levels down to those of developed economies," said Sergei Taruta, Chairman of the Industrial Union of Donbass.

The new 294 MW Ekoenergia power plant will be built inside the existing steel works. It will use state-of-the-art generating equipment that can operate solely with waste gases from the Steel and Coke Works and will meet EU and Ukrainian environmental standards. This means it will save on increasingly expensive supplies of natural gas and reduce the use of some of Ukraine's oldest and most polluting power stations.

The EBRD's involvement in the project has attracted finance from other lenders, including the Japan Bank for International Cooperation (JBIC), which will provide a loan of €91 million, and private international banks, to which €74 million of the total project costs will be syndicated.

This is part of a bigger program by the Industrial Union of Donbass to modernize and expand both the Alchevsk Iron and Steel Works and the other main component of the Ukrainian steel business, the Dniprovsky Iron and Steel Works.

The €0.9 billion Ukrainian program, under way since the beginning of 2005, aims to transform these two steel giants into world-standard suppliers of semi-finished steel and rolled products. It will finance the replacement of obsolete steelmaking processes at Alchevsk, improve energy and environmental efficiency and enhance product quality.

Ukraine is one of the most energy-intensive economies in the world. It is expected that this project will show other heavy industrial users of energy how to improve energy efficiency and become more competitive in global terms.

## **4.2 Keeping the city lights burning: Moscow**

The dim lighting of Moscow in its Soviet days is long gone, when gloomy streets were almost pitch black at night and blocks of flats were visible only by their pale yellow glow. Now the centre of the city is characterized by its Las Vegas style lighting and the city burns with brighter street lamps, glaring cafés and restaurants and households full of state-of-the-art domestic appliances.

But the grid keeping the bright lights shining in Russia's capital city is in need of investment, as demonstrated by last spring's blackout when the whole city was virtually paralyzed for two days. Consequently, the EBRD is lending Mosenergo, the Moscow utility grid company, 2.9 billion roubles (€35 million) to modernize its existing plants and to reduce emissions.

This is a pioneering transaction for the EBRD in terms of financing in local currency as part of the loan will be syndicated in roubles via reputable banks based in Russia. Mosenergo, which now runs 17 electrical power plants, is a long-term client of the EBRD and this loan is a continuation of ongoing support for the electricity giant.

The upgrade of existing plants should mean a more reliable electricity supply for Moscow, and new technology will improve production efficiency and make household bills easier to face. Most importantly, environmentally friendly technology will be introduced, vastly reducing sulphur dioxide emissions – a major cause of dangerous air pollution.

Dmitri Vasilyev, Chief Financial Officer of Mosenergo, confirmed: “The investment program is helping Mosenergo to improve efficiency and environmental performance, including reducing air emissions, and to strengthen its environmental management system.”

#### **4.3 Improving energy efficiency in Poznan's heating network: Poland**

Poznan, Poland's second-largest industrial city, is one of the first cities in Poland to introduce private ownership of its district heating network. The EBRD's equity investment in Dalkia Termika will provide the company with the capital it needs to acquire and manage the system. Private sector expertise and resources are expected to reduce operating costs and improve energy efficiency and service standards.

District heating networks are usually owned and maintained by the local municipality and run from a centralized boiler house. They are an efficient way of providing heating and hot water in densely populated areas, but frequently suffer from a low level of capital investment, infrequent maintenance and high system losses. As a result of high running costs, heating accounts for more than 10 per cent of the average Polish household budget (far higher than the EU average).

Running district heating networks and identifying opportunities for saving energy is Dalkia Termika's main line of business. Its energy efficiency measures typically involve replacing older coal-fired boilers with more modern light-oil or natural gas-fired boilers, which are more efficient and environmentally friendly. Its investment program for Poznan is focused on expanding the network, connecting new customers, delivering efficiencies in the system, improving insulation, and extending metering.

This project is the first to be financed from a renewed multi-project facility with Dalkia International (Dalkia Termika's parent company). The EBRD has acquired 35 per cent of Dalkia Termika's shares with a predetermined exit strategy. The rest are held by Dalkia International (the energy services arm of Vivendi Environment). “With the acquisition of PEC Poznan and with EBRD support, Dalkia has become a major player in the Polish energy market,” said Marie-Françoise Pépin, Managing Director and President of the Board, Dalkia Termika.

## **Section 5: Contact for U.S. Companies Interested In Working With The EBRD In The Energy Efficiency Sector**

As demonstrated in the report above the EBRD is already actively engaged in the Energy Efficiency sector in its countries of operation. The EBRD, along with its investors, continually strive to improve the wasteful energy patterns within the countries of operation. With investments aiding in infrastructure refurbishment and consultancy services, the goals outlines in the SEI will surely be achieved. If you are interested in becoming involved in this project or other projects you should visit <http://www.buyusa.gov/ebrd/>.

Also you can contact

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